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18. The method of claim 14, wherein the chaotropic substance is a chaotropic salt and/or the chaotropic substance is an alcohol.
 19. The method of claim 14, wherein the silica material is a silica or glassfiber membrane, glass or silica in particulate form, beads or frits and/or silica-gel membranes comprising stacks of multi layer membranes.
 20. The method of claim 14, wherein the silica material is magnetic attractable beads with a siliceous surface.
 21. The method of claim 14, wherein the alkaline conditions are adjusted by adding an aqueous solution of an amphoteric substance.
 22. The method of claim 14, performed in multi well plates.
 23. The method of claim 14, performed using automatic pipetting machines.
 24. The method of claim 14, wherein the following process steps are performed:
 - cell lysis
 - adjustment of conditions for selective binding of plasmid DNA preventing binding of linear DNA to silica material
 - selective absorption of plasmid DNA to a silica surface
 - washing of the silica material
 - elution of the plasmid DNA from the silica material.
 25. An aqueous buffer comprising 6 to 9 M sodium thiocyanate, 0 to 20 Vol.-% C₁ - C₄ alcohols and 25 to 130 mM buffer substance.

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26. A kit comprising the aqueous buffer of claim 25 and auxiliary materials.
 27. The method of claim 14, wherein the circular nucleic acid is a plasmid.
 28. The method of claim 14, wherein the mixture contains non circular nucleic acids and at least one other species of nucleic acids selected from the group consisting of RNA, single stranded DNA, double stranded linear DNA, circular open double stranded DNA, and combinations thereof.
 29. The method of claim 14, wherein the chaotropic substance is a thiocyanate, urea, guanidinium salt, perchlorate salt, a halide salt and/or the chaotropic substance is methanol, ethano, n-propanol, isopropanol, n-butanol, n-pentanol, or combinations of said chaotropic substances.
 30. The method of claim 14, wherein the silica material is a silica or glassfiber membrane, glass or silica in powder form, beads or frits and/or silica-gel membranes comprising stacks of several membrane layers (multi layer membranes).
 31. The method of claim 14, wherein the silica material is magnetic attractable beads with a silica or glassfiber surface.
 32. The method of claim 14, wherein the alkaline conditions are adjusted by adding an aqueous solution of an amphoteric omega amino acid.
 33. The method of claim 14, wherein the alkaline conditions are adjusted by adding an aqueous solution of an amphoteric omega amino acid to effect a pH between 8 and 12 in the resulting mixture.